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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: SANG MIN LEE

Serial No.: 09/940,210

Group Art Unit: 2674

Title: COMPACT KEYBOARD FOR HANDHELD COMPUTER

Examiner: DUC Q DINH

APPELLANT'S BRIEF

This brief is in furtherance of the Notice of Appeal filed in this case on November 30, 2005. This Brief is being filed in response to an office communication dated 6/30/2005.

The brief is transmitted in triplicate as required under 37 C.F.R. §1.192(a))

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**CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10**

I hereby certify that, on the date shown below, this correspondence is being: Deposited with the United States Postal Service in an envelop addressed to Mail Stop Appeal Brief, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 as express Mail Post Office to Addressee Mailing Label NO. EQ 708 399 305 US

Date: 7/10/06

[Signature]  
Signature

## **I. REAL PARTY INTEREST**

The real party in interest in this appeal is the party named in the caption of this brief, **SANG MIN LEE**.

## **II. RELATED APPEALS AND INTERFERENCES**

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal, there are no such appeals or interferences

## **III. STATUS OF CLAIMS**

Applicant received a first non-final office action in August of 2001. Applicant amended claims in line with a telephone communication with Examiner 8/28/2001. Claim 2 was allowed. Claim 1 was amended with part of the limitation of claim 2 to place the application in a condition for allowance. Claims 4,10, and 16 were amended to correct the spelling of LCD. Claims 19-24 was added to reclaim subject matter in claim 1 for a continuation. As result of the claims status are as follows (See Exhibit 1 in the Appendix of claims):

1. (currently amended)
2. (currently amended)
3. (original)
4. (currently amended)
5. (original)
6. (original)
7. (original)
8. (original)

9. (original)
10. (currently amended)
11. (original)
12. (original)
13. (original)
14. (original)
15. (original)
16. (currently amended)
17. (original)
18. (original)
19. (new)
20. (new)
21. (new)
22. (new)
23. (new)
24. (new)

A year later Applicant received a second non-final office action in December 2004. Applicant amended claims in line a telephone communication with Examiner. Examiner and Applicant agreed that claim 1 was distinguished from the prior art Blandenbergl. However, we discussed how claim 7 and 13 had to be amended to further distinguish the application from the Blandenbergl As result of the claims status were as follows (See Exhibit 2 in the Appendix of claims):

1. (previously presented)

2. (previously presented)
3. (original)
4. (previously presented)
5. (original)
6. (original)
7. (currently amended)
8. (original)
9. (original)
10. (previously presented)
11. (original)
12. (original)
13. (currently amended)
14. (original)
15. (original)
16. (currently amended)
17. (original)
18. (original)
19. (new)
20. (new)
21. (new)
22. (new)
23. (new)
24. (new)

#### **IV. STATUS OF AMENDMENTS**

Applicant received a final office action on 6/30/2005. This office action was not in line with examiner and applicant prior telephone conversation. Additionally, this office action raised issues that were never discussed in the telephone conversation. Claim 13 was rejected under 35 USC 112. I reviewed the specifications and drawings and determined there were typographical errors in the specifications. I provided that explanation to the examiner in a telephone conversation. Applicant amended the specifications because there was a mislabeling on the drawings of 746, 742, 741, 745 and 7A. I felt that arrow A in drawing 7A needed to be clarified. There were typographical errors in specifications which were changed accordingly Page 9 lines 9-29 and page 10 lines 1-8. The claims presented with the response to the final office action are presented below (See exhibit 3). The claims were not amended. Only the specification was amended to correct 112 rejection. Applicant reasserted the amendments from the prior office action. (See Exhibit 3).

1. (previously presented)
2. (previously presented)
3. (original)
4. (previously presented)
5. (original)
6. (original)
7. (previously presented)

8. (original)
9. (original)
10. (previously presented)
11. (original)
12. (original)
13. (previously presented)
14. (original)
15. (original)
16. (currently amended)
17. (original)
18. (original)
19. (new)
20. (new)
21. (new)
22. (new)
23. (new)
- 24. (new)**

## **V. SUMMARY OF CLAIMED SUBJECT MATTER**

Referring to FIG 1 –3A, page 4 lines 29-37, and page 5 lines 2-29, a description of independent claim 1 is provided. Because independent claim 19 is a broader claim than claim 1, it is also described in the above listed pages. Independent Claim 1 and 19 discloses a handheld computerized device with an attached compact keyboard. In this embodiment of the present invention, the device consists of a keyboard portion and an electronic portion. The keyboard portion and the electronic housing both have a configuration defined by a top edge, bottom edge, top surface, bottom surface, and a pair

of side edges. In this embodiment of the present invention, the top edge of the keyboard portion is hingedly connected to the top edge of the electronic housing. A keypad overlays the top surface of the keyboard portion and a display means overlays the top surface of the electronic housing. A microprocessor is situated inside the electronic housing and is electrically connected to keyboard the portion. The hinge connection between the keyboard portion and the electronic housing allows the keyboard portion to pivot from a closed position into an operable position. When in a closed position the keypad and display means are enclosed in a cavity formed by the closure of the keyboard portion against the electronic housing. To pivot into an operable position, the keyboard portion is pivoted 360 degrees around the longitudinal axis of the electronic housing such that the bottom surface of the keyboard portion becomes parallel to the bottom surface of the electronic housing.

Referring to FIG. 6, and page 8 lines 22-29, a description of independent claim 7 is provided. Independent Claim 7 discloses another embodiment of a handheld computerized device with an attached compact keyboard. In this embodiment of the present invention, the bottom surface of the keyboard portion is permanently affixed to the bottom surface of the electronic housing. In this embodiment the handheld device is fixed in its operable position. A keypad overlay the top surface of the keyboard portion and a display means overlays the top surface of the electronic housing.

Referring to FIG. 7-7C, and page 9 lines 9-29, and page 10 lines 2-11, a description of claim 13 is provided. Claim 13 discloses another embodiment of a handheld computerized device with an attached compact keyboard. In this embodiment of the present invention, the handheld device consists of a sliding bracket having a pair of guide members integrally coupled to the side edges of the electronic housing. The side edges of the keyboard portion are adapted to slide into the guide members. In this embodiment the handheld device is placed in an operable by sliding the keyboard portion with the bottom surface of the keyboard portion parallel to the bottom surface of the electronic housing.

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Applicant is requesting a review of the 103 rejections of claims 1, 2, 19-24, and 7, and 8. Additionally, the 112 rejection of claim 13 needs to be reviewed in this appeal.

## **VII. ARGUMENT**

### **ISSUE 1: 103 REJECTION OF CLAIM INDEPENDENT CLAIM 1, 2, 7, 8, 19-23.**

In my final office action response, Applicant reiterated original response per the telephone interview on December 27, 2004 as follows. In his final office action response, Examiner never discussed FIG. 6C of Brandenburg. Per our telephone conversation, Applicant pointed out the significance of FIG. 6C.

Regarding claim 1, Applicant and Examiner agreed that Applicant's claimed invention could be distinguished from Blandenberg. Applicant claims:

*a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;  
an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;*

***Blandenberg states:***

*As device 801 transitions to the open state, display portion 803 hingedly pivots relative to body portion 807 as indicated by arrow 809 in FIG. 6B. In the open*

*directly from the drawings 7 and 7C which were disclosed in the original disclosure.*

- *Numeral 765 was changed to 745. Numeral 745 is depicted as bottom surface of the electronic housing in the specifications and drawings. This is an obvious error for amendment.*
- *A description of 7A and 7B was added for clarification for examiner. 7B was changed to 7A. 7A is the closed state. This is an obvious error that can be amended in view of the drawings.*
- *As shown in FIG. 7A, in the closed state the keypad (125) faces the bottom surface of the electronic housing which is also stated in the specifications on Page 10, "After the user is finished using device (700), the keyboard portion (710) is slid into guide members (735, 737) with the keypad (725) facing the bottom surface ~~(765)~~ (745) of electronic housing (720)" As shown in the operable state in FIG. 7B, keypad 125 does not face the bottom surface of the electronic housing. However, Applicant can change wording to state a parallel configuration which is also depicted in FIG. 7A if required by the examiner.*

Drawings are considered part of the specifications. (*See Was-Cath, Inc v. Mahurkar*, 935 F2d 1555, 19 USPQ2d 1111, 1118 (Fed. Cir. 1991)). Fig.'s 7A-7C illustrates the configuration of operable and closed state of this embodiment of the present invention. The language of claim 13 comes directly from the specifications in conjunction with the drawings. It is not clear what examiner means by the specification do not reasonably convey to one skilled in the art. Clarification is required because the

drawings are clear. The description does not require literal support for the claimed invention. The disclosure should convey the concept that is claimed. (*See Ex Parte Parks 30 USPQ2d 1234, 1246-27 (B.P.A.I 1993)*)

*Here, the drawings do provide the concept of the claimed invention. The changes to the specifications to bring them in line with drawings are appropriate changes.*

#### **VIII. APPENDIX A OF CLAIMS INVOLVED IN THIS APPEAL**

Exhibit 1 – First non-final Office Action amendment with claims

Exhibit 2- Second non-final Office Action Amendment with Claims

Exhibit 3- Final Office Action Response with Claims

#### **IX. EVIDENCE APPENDIX B**

Exhibit 4 – Brandenburg Patent with drawings at issue

Exhibit 5 – Ni Patent with Drawings

Exhibit 6- first office Action

Exhibit 7—final office Action

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE APPLICATION OF : SANG MIN LEE

Serial No.: 09/940,210

Filed: 08/28/2001

Group Art Unit: 2674

Title: COMPACT KEYBOARD FOR HANDHELD COMPUTER

Examiner: Francis Nguyen

**AMENDMENT**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Honorable Sir:

This amendment is filed in response to the office action dated August 28, 2001.

**IN THIS CLAIMS**

1. (currently amended): A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base; an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base; a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands

are supported while the user is typing on the keypad;

a means for displaying data overlaying the top surface of the electronic housing; and

a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby data entered at the keypad is transmitted to the processor and displayed by the display means[.];

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;

the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

2. (currently amended): The device recited in Claim 1, wherein the keypad further comprises:

[a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;

the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;]

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

3. (original): The device recited in Claim 1, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;

a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and each edge of the display area lying adjacent to and being securely

attached to each corresponding strip of the display area.

4. (currently amended): The device recited in Claim 3 wherein the display area is a Liquid

[Crystals] Crystal Display (LCD).

5. (original): The device recited in Claim 3, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and

a means for electrically connecting the plurality of alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

6. (original): The device recited in Claim 1, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting; and  
the pressure sensitive writing means overlapping the bottom edge of the display area.

7. (original): A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the bottom surface of the electronic housing being securely attached to the bottom surface of the keyboard portion;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;

a means for displaying data overlaying the top surface of the electronic housing; and

a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

8. (original): The device recited in Claim 7, wherein the keypad further comprises:

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;

the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

9. (original): The device recited in Claim 7, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;

a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and  
each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

10. (currently amended): The device recited in Claim 9 wherein the display area is a Liquid [Crystals] Crystal Display (LCD).

11. (original): The device recited in Claim 10, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and

a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

12. (original): The device recited in Claim 7, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting; and  
the pressure sensitive writing means overlapping the bottom edge of the display area.

13. (original): A handheld computerized device comprising:

a sliding bracket having a pair of guide members;

a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being adapted to slide into the pair of guide members, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being integrally coupled to the pair of guide members;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;

a means for displaying data overlaying the top surface of the electronic housing; and

a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

14. (original): The device recited in Claim 13, wherein the keypad further comprises:
- a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;
  - the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
  - the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
  - the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand;
15. (original): The device recited in Claim 13, wherein the display means further comprises:
- a display area defined by a top edge, bottom edge, and a pair of side edges;
  - a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and
  - each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.
16. (currently amended): The device recited in Claim 15 wherein the display area is a Liquid [Crystals] Crystal Display (LCD).
17. (original): The device recited in Claim 15, wherein the bottom strip and each side strip of the front panel further comprises:
- a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and
  - a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.
18. (original): The device recited in Claim 13, further comprising:
- a pressure sensitive writing means for allowing data to be inputted via handwriting; and
  - the pressure sensitive writing means overlapping the bottom edge of the display area.
19. (new): A handheld computerized device comprising:
- a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;  
a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad; and-

20. (new): The device recited in Claim 19, wherein the keypad further comprises:

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;  
the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;  
the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and  
the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

21. (new): The device recited in Claim 19 wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;  
a front panel surrounding the display area and being defined by a top strip, a bottom strip, securely attached to each corresponding strip of the display area.

22. (new): The device recited in Claim 21 wherein the display area is a Liquid Crystal Display (LCD).

23. (new): The device recited in Claim 21 wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal

upon depression thereof; and

a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

24. (new): The device recited in Claim 1 further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting; and  
the pressure sensitive writing means overlapping the bottom edge of the display area.

## REMARKS

## AMENDMENTS

### 1. REGARDING CLAIMS 4, 10, and 16

The word **CRYSTALS** is misspelled. The correct interpretation of **LCD** is Liquid Crystal Display. Each claim was corrected accordingly.

### 2. REGARDING CLAIMS 1 AND 2

Per our telephone interview, in order to place claims 1-6 in a condition for allowance, the first two limitations of claim 2 was moved up into claim 1. The last two claim limitations were remained in claim 2.

## ARGUMENTS

### 3. REGARDING ORIGINAL CLAIM 1

Genest discloses a latch and a hook to fasten the two portions of the handheld device together. Fastening means is normally defined as some type of structure that holds two separate structures together such as screw or latch and a hook. The applicant's claim invention discloses a hand support means for supporting the left and right hand while typing on the keypad. When the word "whereby" and its accompanying phrase set forth a structural limitation for the invention recited in the claim, the word "whereby" and the accompanying phrase will be considered a positive limitation of the claim and thereby limit the claim accordingly. (See *Scheinman v Zalkind*, 112 F.2d 1017, 1019, 46 USPQ 141, 143 (C.C.P.A 1940)). The Genest disclosed fastening means does not provide a structure to for hand support means. Your fingers are required to connect and dislodge the latch and hook. However, technically the fastener does not provide hand support. The applicant describes hand support means as a structure required to support the hands during typing. (See Page 8 Lines 23-29 and Page 9 Lines 1-5 in the specifications) The Genest disclosed fastening means is not structurally or functionally equivalent to the disclosed hand support means. Since the Genest disclosed fastening means is not an

equivalent to the applicant's disclosed hand support means structure in the specification, it cannot provide a suggestion or motivation to utilize Genest's latch and hook as a hand support means and achieved the claimed invention. Therefore, in order to reclaim the original claims 1-6 based upon the argument above claims 19-24 are added.

#### **4. REGARDING CLAIM 7**

Genest discloses a handheld device with a first portion having a display screen operably connected onto its inner surface and a second portion having a keyboard operably connected onto its inner surface. The first and second portion are hingedly connected such that in an opened position the first and second portion are pivoted to lie adjacent to each other and in a closed position the inner surfaces of each portion are pivoted to face each other. A fastening means, a latch and hook, is disclosed which secures the first and second portion in a closed position.

The claimed invention describes a handheld device with the bottom surfaces of the first and second portion securely attached together. Hand support means are described to support the hands while typing on the keypad.

In order to establish a prima facie case of obviousness the resulting combination or modification must teach or suggest the claimed invention. (See *In re Wright*, 848 F. 2d 1216, 6 USPQ 2d 1959,1962 (Fed. Cir. 1988)). It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. The court has previously stated that "one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." (See *In re Fritch*, 972 F. 2d 1260, 23 USPQ 2d 1780,1784 (Fed. Cir. 1992)). Here, Genest does not provide a suggestion or motivation to have multiple configurations to practice its disclosed invention. The *Levengood* decision teaches that an obvious rejection cannot be predicated on the fact that one skilled in the art would have the capabilities to arrive at the claimed invention. (See *Ex parte Levengood*, 28 USPQ 2d 1300, (Bd. Pat. App. & Inter. 1993)). The *Lindell* decision teaches that the Examiner may not use as an element of the obvious rejection that one skilled in the art would have arrived at the invention by trying different alternative structures. (See *In re*

*Lindell*, 385 F. 2d 453, 155 USPQ 521 (C.C.P.A. 1967)). Here, Genest teaches pivoting the first and second portion between an opened and closed position. Genest does not teach or suggest an alternative configuration of affixing the bottom surfaces of the two portions together. Thus, one skilled in the art would have to provide the suggestion of an alternative configuration to obtain the applicant's claimed invention. This argument is impermissible based upon the *Levengood* and *Lindell* decision.

The suggestion to combine the references must not require substantial reconstruction or design of the references to arrive at the claimed invention. (See *In re Ratti*, 270 F. 2d 810, 123 USPQ 349,1784 (C.C.P.A. 1959)). Here, Genest will have to be significantly redesigned and restructured to obtain the applicant's claimed invention. Furthermore, the alternative configuration of the applicant's claimed invention would render the Genest invention inoperable. It is not generally enough that the prior art suggest the combination recited in the claims; there must also be some reasonable expectation of success of the suggested combination. (See *In re Dow Chem. Co.* 837 F. 2d 469, 473 USPQ 2d 1529,1531 (Fed. Cir. 1988)).

Here, Genest teaches away from the applicant's claimed invention. In Genest the first and second portion are pivoted into a closed position protecting the display screen and keypad. Then, the fastening means is utilized to secure the two portions in place and thereby protecting the display screen and keypad. With the applicant's claimed invention the bottom surfaces are secured into an open position by affixing the two bottom surfaces.

Genest discloses a latch and a hook to fasten the two portions of the handheld device together. Fastening means is normally defined as some type of structure that holds two separate structures together such as screw or latch and a hook. The applicant's claim invention discloses a hand support means for supporting the left and right hands while typing on the keypad. When the word "whereby" and its accompanying phrase set forth a structural limitation for the invention recited in the claim, the word "whereby" and the accompanying phrase will be considered a positive limitation of the claim and thereby limit the claim accordingly. (See *Scheinman v Zalkind*, 112 F.2d 1017, 1019, 46 USPQ 141, 143 (C.C.P.A. 1940)). The Genest disclosed fastening means does not provide a structure to for hand support

means. Your fingers are required to connect and dislodge the latch and hook. However, technically the fastener does not provide hand support. The applicant describes hand support means as a structure required to support the hands during typing. (See Page 8 Lines 23-29 and Page 9 Lines 1-5 in the specifications) The Genest disclosed fastening means is not structurally or functionally equivalent to the disclosed hand support means in the specification. (See 35 USC §112 paragraph 6) Since the Genest disclosed fastening means is not an equivalent to the applicant's disclosed hand support means structure in the specification, it cannot provide a suggestion or motivation to utilize Genest's latch and hook as a hand support means and achieve the claimed invention.

## **5. REGARDING CLAIM 13**

Genest discloses a handheld device with a first portion having a display screen operably connected onto its inner surface and a second portion having a keyboard operably connected onto its inner surface. The first and second portion are hingedly connected such that in an opened position the first and second portion are pivoted to lie adjacent to each other and in a closed position the inner surfaces of each portion are pivoted to face each other. A fastening means, a latch and hook, is disclosed which secures the first and second portion in a closed position. Allegeyer discloses sliding members attached to a disk. Allegeyer does not teach or suggest in a broad sense utilizing guide members on a handheld computer device.

The claimed invention describes a handheld device with a pair of sliding guide members attached to each side edge of the first and second portion. The pair of guide members is utilized to secure the bottom surfaces of the first and second portion in a parallel position. Hand support means are described to support the hands while typing on the keypad.

In order to establish a prima facie case of obviousness the resulting combination or modification must teach or suggest the claimed invention. (See *In re Wright*, 848 F. 2d 1216, 6 USPQ 2d 1959, 1962 (Fed. Cir. 1988)). It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This

court has previously stated that "one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. (See *In re Fritch*, 972 F. 2d 1260, 23 USPQ 2d 1780,1784 (Fed. Cir. 1992)). Here, Genest does not provide a suggestion or motivation to have multiple configurations to practice its disclosed invention. The *Levengood* decision teaches that an obvious rejection cannot be predicated on the fact that one skilled in the art would have the capabilities to arrive at the claimed invention. (See *Ex parte Levengood*, 28 USPQ 2d 1300, (Bd. Pat. App. & Inter. 1993)). The *Lindell* decision teaches that the Examiner may not use as an element of the obvious rejection that one skilled in the art would have arrived at the invention by trying different alternative structures. (See *In re Lindell*, 385 F. 2d 453, 155 USPQ 521 (C.C.P.A. 1967)). Here, Genest teaches pivoting the first and second portion between an opened and closed position. Genest does not teach or suggest an alternative configuration utilizing guide members to secure the bottom surfaces of the two portions together. Thus, one skilled in the art would have to provide the suggestion of an alternative configuration to obtain the applicant's claimed invention. This argument is impermissible based upon the *Levengood* and *Lindell* decision.

The suggestion to combine the references must not require substantial reconstruction or design of the references to arrive at the claimed invention. (See *In re Ratti*, 270 F. 2d 810, 123 USPQ 349, 1784 (C.C.P.A. 1959)). Here, Genest will have to be significantly redesigned and restructured to obtain the applicant's claimed invention.

Here, Genest teaches away from the applicant's claimed invention. In Genest, the first and second portion are pivoted into a closed position protecting the display screen and keypad. Then, the fastening means is utilized to secure the two portions in place and thereby protecting the display screen and keypad. With the applicant's claimed invention the bottom surfaces are secured into an open position by guide members attached to the side edges of each portion of the handheld device.

Genest discloses a latch and a hook to fasten the two portions of the handheld device together. Fastening means is normally defined as some type of structure that holds two separate structures together such as screw or latch and a hook. The

applicant's claim invention discloses a hand support means for supporting the left and right hand while typing on the keypad. When the word "whereby" and its accompanying phrase set forth a structural limitation for the invention recited in the claim, the word "whereby" and the accompanying phrase will be considered a positive limitation of the claim and thereby limit the claim accordingly. (See *Scheinman v Zalkind*, 112 F.2d 1017, 1019, 46 USPQ 141, 143 (C.C.P.A 1940)). The Genest disclosed fastening means does not provide a structure to for hand support means. Your fingers are required to connect and dislodge the latch and hook. However, technically the fastener does not provide hand support. The applicant describes hand support means as a structure required to support the hands during typing. (See Page 8 Lines 23-29 and Page 9 Lines 1-5 in the specifications) The Genest disclosed fastening means is not structurally or functionally equivalent to the disclosed hand support means. Since the Genest disclosed fastening means is not an equivalent to the applicant's disclosed hand support means structure in the specification, it cannot provide a suggestion or motivation to utilize Genest's latch and hook as a hand support means and achieved the claimed invention.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully asked that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. Alternatively should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, he is invited to telephone the undersigned.

Respectfully submitted:



**Delphine M. James**

**Registration No. 45,960**

**Delphine James, Attorney At Law**

**2656 South Loop West #170**

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(713) 661-4144

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**CERTIFICATE OF MAILING**

I, **Delphine James**, hereby certify that the foregoing **Amendment** is being deposited on 08/18/03 with the United States Postal Service as U.S. Mail, Express mail, in an envelope addressed to:

Commissioner of Patents

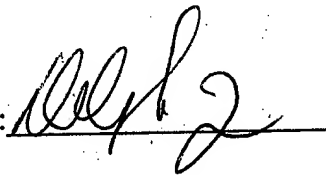
Patent Application

Washington DC 20231

Additionally, the foregoing Amendment is being faxed to 703-746-5850.

Express Mail Receipt No. \_\_\_\_\_

By: \_\_\_\_\_





**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE APPLICATION OF: SANG MIN LEE

Serial No.: 09/940,210

Group Art Unit: 2674

Title: COMPACT KEYBOARD FOR HANDHELD COMPUTER

Examiner: DUC Q DINH

**AMENDMENT**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Honorable Sir:

This amendment is filed in response to the office action dated 9/2/2004.

**IN THE CLAIMS**

1. (original) A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base defined by a

top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the

keypad overlaying the top surface of the support base;

an electronic housing having a configuration defined by a top surface, a bottom surface,

a rear edge, a front edge, and a pair of side edges, the front edge of the electronic

housing being hingedly coupled to the front edge of the support base such that the

electronic housing can pivot from a closed position into an open position wherein the

bottom surface of the electronic housing is parallel to the bottom surface of the support

base;

a pair of hand support means being securely attached at an ergonomic position along

each side edge of the electronic housing, whereby a user's left hand or right hand or

both hands are supported while the user is typing on the keypad;  
a means for displaying data overlaying the top surface of the electronic housing; and  
a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby data entered at the keypad is transmitted to the processor and displayed by the display means.

2. (original) The device recited in Claim 1, wherein the keypad further comprises:  
a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;  
the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;  
the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and  
the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.
3. (original) The device recited in Claim 1, wherein the display means further comprises:  
a display area defined by a top edge, bottom edge, and a pair of side edges;  
a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and  
each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.
4. (original) The device recited in Claim 3 wherein the display area is a Liquid Crystals Display (LCD).
5. (original) The device recited in Claim 3, wherein the bottom strip and each side strip of the front panel further comprises:  
a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and  
a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.
6. (original) The device recited in Claim 1, further comprising:  
a pressure sensitive writing means for allowing data to be inputted via handwriting;

and

the pressure sensitive writing means overlapping the bottom edge of the display area.

7. (currently amended) A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the bottom surface of the electronic housing being securely attached to the bottom surface of the keyboard portion in an operable position;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;

a means for displaying data overlaying the top surface of the electronic housing; and

a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

8. (original) The device recited in Claim 7, wherein the keypad further comprises:

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;

the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

9. (original) The device recited in Claim 7, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;

a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and

each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

10. (original) The device recited in Claim 9 wherein the display area is a Liquid Crystals Display (LCD).

11. (original) The device recited in Claim 10, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and

a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

12. (original) The device recited in Claim 7, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting; and

the pressure sensitive writing means overlapping the bottom edge of the display area.

13. (currently amended) A handheld computerized device comprising:

a sliding bracket having a pair of guide members;

a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being adapted to slide into the pair of guide members in an operable state or in a closed state, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being integrally coupled to the pair of guide members;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;

in the operable state, the side edges of the support base are adapted to slide into the guide members such that the bottom surface of the support base and the bottom surface of the electronic housing are parallel to each other;

in the closed state, the side edges of the support base are adapted to slide into the guide members such that the keypad faces the top surface of the electronic housing;

a means for displaying data overlaying the top surface of the electronic housing; and  
a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

14. (original) The device recited in Claim 13, wherein the keypad further comprises:

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;

the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand;

15. (original) The device recited in Claim 13, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;

a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and

each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

16. (original) The device recited in Claim 15 wherein the display area is a Liquid Crystals Display (LCD).

17. (original) The device recited in Claim 15, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and

a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

18. (original) The device recited in Claim 13, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting;  
and

the pressure sensitive writing means overlapping the bottom edge of the display area.

## ARGUMENTS

Per our telephone interview on December 27, 2004, I am filing this response.

Regarding claim 1, we agreed that Applicant's claimed invention could be distinguished from Blandenberg. Applicant claims:

*a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;*

*an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;*

Blandenberg states:

*As device 801 transitions to the open state, display portion 803 hingedly pivots relative to body portion 807 as indicated by arrow 809 in FIG. 6B. In the open state, display screen 815 display screen 8154 is adjacent to and visible above thumbboard 805.*

As shown in FIG. 6C, the invention in the prior art keyboard is adjacent to the keyboard in an open state. The prior illustrates in FIG. 6A and 6B that bottom surface of the keyboard and display portion are parallel in a closed state. However, applicant claims the electronic housing having the display and the keyboard portion are parallel in an open state. Thus, the Applicant's invention is distinguished from the prior art.

Regarding independent claim 7, claim 7 was amended to claim an alternative embodiment of claim 1, wherein the invention is affixed into an operable position with the bottom surface of electronic housing (620) and keyboard portion (610) in a parallel position. (See Page 8 line 8-16 and FIG. 6)

Regarding independent claim 13, claim 13 was amended to claim an alternative embodiment of claim 1, wherein the invention is slid into an operable position with the bottom surface of electronic housing (720) and keyboard portion (710) in a parallel position. (See Page 10 line 3-5 and FIG. 7C).

Applicant has amended independent claims 7 and 13 to further distinguish with the prior art. In view of the above amendments to independent claims 7 and 13 and supporting argument to claim 1, Applicant respectfully requests that the rejections to the supporting dependent claims be withdrawn. Alternately should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, he/she is invited to telephone the undersigned.

**Respectfully submitted:**

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**CERTIFICATE OF MAILING AND FACISIMILE**

**I, Delphine James, hereby certify that the foregoing Response to the Office Action is being deposited on January 2, 2005 with the United States Postal Service as U.S. Express Mail. Additionally, the foregoing response is also being transmitted by Facsimile to 703-872-9306.**

**COMMISSIONER OF PATENTS  
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ALEXANDRIA, VA 22313-1450**

**Express Receipt No. ER**

**BY: \_\_\_\_\_**

**Delphine James**



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE APPLICATION OF: SANG MIN LEE

Serial No.: 09/940,210

Group Art Unit: 2674

Title: COMPACT KEYBOARD FOR HANDHELD COMPUTER

Examiner: DUC Q DINH

**AMENDMENT**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Honorable Sir:

This amendment is filed in response to the office Communication filed on 1/25/2006. Applicant re-files response with the following remarks. Claim 13 was filed in response to a telephonic interview with the examiner. Amended Claim 13 was on file with the non-final office action. Thus, Examiner had an opportunity to research and review claim prior to non-final office action. Examiners have had ample time and opportunity to research prior art in this case.

**IN THE SPECIFICATIONS**

Referring now to FIG. 7, an overall perspective side view of another alternative embodiment of the present invention is seen, a handheld computerized device (700) in an open position. Device (700) can be a Personal Digital Assistant (PDA), Palm Computer or another portable computer with similar architecture. The present invention in no manner is limited by the particular structure, function, logical architecture or compatibility of device (700).

In the illustrated embodiment, device (700) comprises keyboard portion (710) and electronic housing (720). Keyboard portion (710) is depicted having a support base (715) and keypad (725). Support base (715) is depicted having a rectangular configuration with keypad (725) overlaying the top surface (730) of support base (715).

In the illustrated embodiment, device (700) further comprises a sliding bracket (735) having a pair of guide members (736, 737) and a corresponding pair of ribs (746, 747). As shown in the illustrated embodiment, each guide member (736, 737) is composed of a rectangular strip having a groove (738) along its inner horizontal plane. In this kind of embodiment, each side edge (755) of support base (715) is adapted with ribs ~~(736, 737)~~ (746, 747) that is configured to slide into the groove (738) of each corresponding guide member (736, 737). As shown FIG. 7A and FIG. 7B, after the keyboard portion (710) is completely slid into the guide members (736, 737), the keyboard portion (710) is securely held in place.

In the illustrated embodiment, device (700) further comprises electronic housing (720) having a rectangular configuration with a top surface (740), bottom surface (745) top edge ~~(741)~~ (742), bottom edge ~~(742)~~ (741), and a pair of side edges (743, 744). As illustrated in the embodiment, the pair of side edges (743, 744) of the electronic housing are integrally coupled to the pair of guide members (736, 737). With this alternative embodiment except for the addition of the sliding bracket (735), electronic housing (720) and keyboard portion (710) are structurally equivalent and functionally equivalent to electronic housing (200) and keyboard portion (300) of device (100) shown in FIG 1. Additionally, with this alternative embodiment, the internal schematic diagram illustrated in FIG. 4 for electronic housing (200) is also supported by electronic housing (720).

As shown in FIG. 7C, when device (700) is used, it is placed in an operable position by sliding ribs (746, 747) into guide members (735, 737) with the bottom surface (760) of keyboard portion (710) parallel to the bottom surface (745) of electronic housing (720). Then, a user would place their left or right or both hands in the hand support braces (770, 772) while the user is typing at the keypad (725). After the user is finished using device (700), the keyboard portion (710) is slid into guide members (735, 737) with the keypad (725) facing the bottom surface ~~(765)~~ (745) of electronic housing (720) as shown in FIG. ~~7B~~ 7A. The arrow on drawing 7A illustrates keyboard portion 710 being slid out of guide members (735, 737) with the keypad (725) facing the bottom surface (745) of electronic housing (720). As depicted in 7B, the arrow in FIG. 7B illustrates keyboard portion 710 being slid into guide members (735, 737) with the bottom surface of keyboard portion 710 facing the bottom surface of electronic housing (720).

While only certain embodiments of the invention have been illustrated and described, it

is understood that alterations, changes, and modifications may be made without departing from the true scope and spirit of the invention.

## IN THE CLAIMS

1. (Previously Presented) A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;

a means for displaying data overlaying the top surface of the electronic housing; and  
a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby data entered at the keypad is transmitted to the processor and displayed by the display means; and

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;

the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

2. (Previously Presented) The device recited in Claim 1, wherein the keypad further comprises:

~~a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;~~

~~the first and the second section lying co-planar vertically parallel along the top surface~~

~~of the support base of the keyboard portion;~~

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

3. (original) The device recited in Claim 1, wherein the display means further comprises:
  - a display area defined by a top edge, bottom edge, and a pair of side edges;
  - a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and
  - each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.
4. (Previously Presented) The device recited in Claim 3 wherein the display area is a Liquid ~~Crystals~~ Crystal Display (LCD).
5. (original) The device recited in Claim 3, wherein the bottom strip and each side strip of the front panel further comprises:
  - a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and
  - a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.
6. (original) The device recited in Claim 1, further comprising:
  - a pressure sensitive writing means for allowing data to be inputted via handwriting;
  - and
  - the pressure sensitive writing means overlapping the bottom edge of the display area.
7. (currently amended) A handheld computerized device comprising:
  - a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;
  - an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the bottom surface of the electronic housing being securely attached to the bottom surface of the keyboard portion in an operable position;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;  
a means for displaying data overlaying the top surface of the electronic housing; and  
a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

8. (original) The device recited in Claim 7, wherein the keypad further comprises:

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;  
the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;  
the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and  
the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

9. (original) The device recited in Claim 7, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;  
a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and  
each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

10. (Previously Presented) The device recited in Claim 9 wherein the display area is a Liquid ~~Crystals~~ Crystal Display (LCD).

11. (original) The device recited in Claim 10, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and  
a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

12. (original) The device recited in Claim 7, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting;

and

the pressure sensitive writing means overlapping the bottom edge of the display area.

13. (currently amended) A handheld computerized device comprising:

a sliding bracket having a pair of guide members;

a keyboard portion having a support base and a keypad, the support base including a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being adapted to slide into the pair of guide members in an operable state or in a closed state, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration with a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the pair of side edges being integrally coupled to the pair of guide members;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad;

in the operable state, the side edges of the support base are adapted to slide into the guide members such that the bottom surface of the support base and the bottom surface of the electronic housing are parallel to each other;

in the closed state, the side edges of the support base are adapted to slide into the guide members such that the keypad faces the top bottom surface of the electronic housing;

a means for displaying data overlaying the top surface of the electronic housing; and

a processor situated within the electronic housing, the processor electrically connected to the display means and the keyboard portion whereby the data entered at the keypad is transmitted to the processor and displayed by the display means.

14. (original) The device recited in Claim 13, wherein the keypad further comprises:

a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas;

the first and second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;

the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and

the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand;

15.(original) The device recited in Claim 13, wherein the display means further comprises:

a display area defined by a top edge, bottom edge, and a pair of side edges;

a front panel surrounding the display area and being defined by a top strip, a bottom

strip, and a pair of side strips; and

each edge of the display area lying adjacent to and being securely attached to each corresponding strip of the display area.

16.(Previously Presented) The device recited in Claim 15 wherein the display area is a Liquid

~~Crystals~~ Crystal Display (LCD).

17.(original) The device recited in Claim 15, wherein the bottom strip and each side strip of the front panel further comprises:

a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof; and

a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.

18.(original) The device recited in Claim 13, further comprising:

a pressure sensitive writing means for allowing data to be inputted via handwriting;

and

the pressure sensitive writing means overlapping the bottom edge of the display area.

19. (Previously Presented) A handheld computerized device comprising:

a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;

an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hinged coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the

bottom surface of the electronic housing is parallel to the bottom surface of the support base;

a pair of hand support means being securely attached at an ergonomic position along each side edge of the electronic housing, whereby a user's left hand or right hand or both hands are supported while the user is typing on the keypad.

20. (Previously Presented): The device recited in Claim 19, wherein the keypad further comprises:
- a first and a second section having a plurality of alphanumeric keys each adapted to generate a character signal upon depression thereof, each section being in the form of complementary symmetrical or asymmetrical parabolas,
  - the first and the second section lying co-planar vertically parallel along the top surface of the support base of the keyboard portion;
  - the first section of the keypad being arranged in the standard QWERTY keyboard format for the left hand; and
  - the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.
21. (Previously Presented) The device recited in Claim 19 wherein the display means further comprises:
- a display area defined by a top edge, bottom edge, and a pair of side edges;
  - a front panel surrounding the display area and being defined by a top strip, a bottom strip, securely attached to each corresponding strip of the display area.
22. (Previously Presented): The device recited in Claim 21 wherein the display area is a Liquid Crystal Display (LCD).
23. (Previously Presented): The device recited in Claim 21 wherein the bottom strip and each side strip of the front panel further comprises:
- a plurality of additional alphanumeric keys each adapted to generate a character signal upon depression thereof;
  - a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor.
24. (Previously Presented) The device recited in Claim 19 further comprising :
- a pressure sensitive writing means for allowing data to be inputted via handwriting; and
  - the pressure sensitive writing means overlapping the bottom edge of the display area.

## ARGUMENTS

I am reiterating my original response per our telephone interview on December 27, 2004 as follows. In his response, Examiner never discussed FIG. 6C of Brandenburg. Per our telephone conversation, I pointed out the significance of FIG. 6C.

Regarding claim 1, we agreed that Applicant's claimed invention could be distinguished from Blandenberg. Applicant claims:

*a keyboard portion having a support base and a keypad, the support base defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the keypad overlaying the top surface of the support base;*

*an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hinged coupled to the front edge of the support base such that the electronic housing can pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base;*

Blandenberg states:

*As device 801 transitions to the open state, display portion 803 hingedly pivots relative to body portion 807 as indicated by arrow 809 in FIG. 6B. In the open state, display screen 815 is adjacent to and visible above thumbboard 805. Fig. 6a shows the closed state and Fig. 6B is still in the closed state to show the transition to FIG. 6C.*

As shown in FIG. 6C, the invention in the prior art keyboard is adjacent to the keyboard in an open state. The prior illustrates in FIG. 6A and 6B that bottom surface of the keyboard and display portion are parallel in a closed state. However, applicant claims the electronic housing

having the display and the keyboard portion are parallel in an open state. Thus, the Applicant's invention is distinguished from the prior art. As shown in FIG.'S, 6A, 6B, and 6C, the lower edge of the display is hingedly connected to the top edge of the keyboard housing. As shown in FIG. 1 in the specification, the two top edges are hingedly connected as claimed.

Regarding independent claim 7, claim 7 was amended to claim an alternative embodiment of claim 1, wherein the invention is affixed into an operable position with the bottom surface of electronic housing (620) and keyboard portion (610) in a parallel position. (See Page 8 line 8-16 and FIG. 6)

Regarding independent claim 13, claim 13 was amended to claim an alternative embodiment of claim 1, wherein the invention is slid into an operable position with the bottom surface of electronic housing (720) and keyboard portion (710) in a parallel position. (See Page 10 lines 3-5 and FIG. 7C).

### **112 REJECTION OF CLAIM 13**

The specifications do more than just mention operable versus closed state. The Page 9 lines 9-29 through page 10 lines 1-8 discloses the full process. There are some typographical errors between the FIG.'S 7A-7C and the specifications. The disclosure can be amended to matter that is inherently disclosed by the original application. (*See In re Smyte, 480 F.2d 1376, 178 USPQ 279 (C.C.P.A.)*) As a result, applicant has amended the specifications to be in line with the drawings which are part of the original disclosure. Examiner alleges that the specifications fail to convey to one skilled in the art. Applicant has amended FIG 7A and 7B with labels in line with FIG 7 and FIG. 7C. Applicant has provided FIG. 7C for clarification. The specification was amended as follows (Please note that examiner and applicant discuss

these changes in a telephone conversation; these amendments could have been taken care of before final office action response):

- label (746,747) was replaced with 736, 737 to show rib designations. 746, 747 was designated as ribs earlier in the application. This is an obvious error that can be amended.
- labels 741 and 742 was changed because their designation are reversed in the drawings. This is an obvious error that can be amended.
- More designations were added to FIG. 7A and 7B for clarification and to bring them in line with FIG. 7 and 7C. These designations are taken directly from the drawings 7 and 7C which were disclosed in the original disclosure.
- 765 was changed to 745. 745 is depicted as bottom surface of the electronic housing in the specifications and drawings. This is an obvious error for amendment.
- a description of 7A and 7B was added for clarification for examiner. 7B was changed to 7A. 7A is the closed state. This is an obvious error that can be amended in view of the drawings.
- Claim 13 was amended for examiner clarification. As shown in FIG. 7A, in the closed state the keypad (125) faces the bottom surface of the electronic housing which is also stated in the specifications on Page 10, *"After the user is finished using device (700), the keyboard portion (710) is slid into guide members (735, 737) with the keypad (725) facing the bottom surface ~~(765)~~ (745) of electronic housing (720)"* As shown in the operable state in FIG. 7B, keypad 125 does not face the bottom surface of the electronic housing. However,

Applicant can change wording to state a parallel configuration which is also depicted in FIG. 7A if required by the examiner.

Drawings are considered part of the specifications. (*See Was-Cath, Inc v. Mahurkar, 935 F2d 1555, 19 USPQ2d 1111, 1118 (Fed. Cir. 1991)*). Fig.'s 7A-7C illustrates the configuration of operable and closed state of this embodiment of the present invention. The language of claim 13 comes directly from the specifications in conjunction with the drawings. It is not clear what examiner means by the specification do not reasonably convey to one skilled in the art. Clarification is required because the drawings are clear. The description does not require literal support for the claimed invention. The disclosure should convey the concept that is claimed. (*See Ex Parte Parks 30 USPQ2d 1234, 1246-27 (B.P.A.I 1993)*) *Here, the drawings provide the concept of the claimed invention.*

### 103 REJECTIONS

*Examiner cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. A factual inquiry whether to combine references must be thorough and searching. A showing of suggestion, teaching or motivation to combine the prior art references is an essential component of an obvious holding. The prior art must suggest a desirability to combine prior art references. (See 277 F3d 1338, 61 USPQ2d 1430 (Fed. Cir 2002)).*

*Here, the examiner tried to use Brandenburg to fit the claim limitations of Applicant. However, Brandenburg does not teach or suggest the configuration as claimed by the applicant. Brandenburg teaches a pivoting of a display into a normal configuration with the display adjacent to the keyboard in an open state. The device in Brandenburg is not hingedly*

*connected as claimed by the Applicant. The hingedly connection between the two top edges facilitates the transitioning of the applicant's device the open state.*

*Ni illustrates a backside keyboard for a notebook computer or gamebox. Ni is new reference traversed by the examiner. Additionally, the Keyboard in Ni is not Parabolic and is not hingedly connected as claimed by the Applicant.*

*Ni nor Brandenburg discloses hand grips for supporting the hands while typing on the keyboard when the device is in the open state. In Brandenburg in FIG. 6C, a standard keyboard is shown. Thus hand support means on the side is not required. Label 827 in FIG. 6C designates joysticks. By plain definition joysticks are not used for hand support means. Thus, there is no motivation to combine Ni and Brandenburg. Additionally, it also follows that there is no motivation to combine Makala as well.*

Examiner is reminded that Applicant has amended independent claims 7 and 13 to further distinguish with the prior art. In view of the above amendments to independent claims 7 and 13 and supporting argument to claim 1, Applicant respectfully requests that the rejections to the supporting dependent claims be withdrawn. Alternately should the Examiner feel that a personal discussion might be helpful in advancing this case to allowance, he/she is invited to telephone the undersigned.

**Respectfully submitted:**

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**CERTIFICATE OF TRANSMISSION**

**I, Delphine James, hereby certify that the foregoing Response to the Office Action is  
being transmitted to the address below by Facsimile to**

\_\_\_\_\_.

**COMMISSIONER OF PATENTS  
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**BY: \_\_\_\_\_**

**Delphine James**

## USPTO PATENT FULL-TEXT AND IMAGE DATABASE

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( 1 of 1 )

United States Patent  
Ni

6,297,752  
October 2, 2001

Backside keyboard for a notebook or gamebox

### Abstract

A keyboard for a notebook computer, personal computer, Personal Data Assistance computer or a game having two keyboard sections. In one embodiment the sections are fixedly mounted on the underside of the chassis of the device and the keys are arranged with half the keys on one section and half the keys are on the other section and positioned such that each key is in a natural position corresponding to the position of the keys when one is typing on a conventional keyboard. In another embodiment, each section is hingeably attached to an edge of the keyboard and the keyboard may be used in one position where the sections extend from the keyboard and face the user and another position where the sections are folded against the backside of the chassis of the device.

Inventors: Ni; Xuan (San Jose, CA)

Appl. No.: 995321

Filed: December 22, 1997

Current U.S. Class:

341/22 ; 341/20; 345/168; 345/172; 400/489; 400/709.1

Field of Search:

341/20,22 345/169,172,168 400/489,709.1,715

### References Cited [Referenced By]

#### U.S. Patent Documents

5278779	January 1994	Conway et al.
5410333	April 1995	Conway
5515305	May 1996	Register et al.
5645277	July 1997	Cheng
5736976	April 1998	Cheung

Primary Examiner: Horabik; Michael  
Assistant Examiner: Edwards, Jr.; Timothy

*Parent Case Text*

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CROSS REFERENCES

This application is a continuation-in-part of Ser. No. 08/687,250 filed Jul. 25, 1996 now abandoned from which priority is claimed.

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*Claims*

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I claim:

1. A keyboard for an electronic device, said device being one of

(i) a notebook computer;

(ii) a personal digital assistant computer;

(iii) a game;

mounted in a chassis having a substantially rectangular shape and front surface opposite a rear surface; wherein said keyboard comprises:

said front surface facing an operator when said operator is operating said device;

a right keyboard section having a right array of keys arranged on a key side of said right keyboard section;

a left keyboard section having a left array of keys arranged on a key side of said left keyboard section;

said right and left arrays arranged to provide that when said right keyboard section is positioned with a parting edge of said right keyboard section against a parting edge of said left keyboard section, the combination of said left and right arrays is arranged identically to a standard keyboard;

means for securing said backside of said right keyboard section and said backside of said left keyboard section to said rear surface of said chassis oriented in a first position to provide that when said user faces said front surface and holds said device with a left hand holding a left edge and a right hand holding a right edge of said device, fingers of said left and right hand are in a normal position in which the palms of the hand are turned toward the face of the user and they have the same spatial relationship to said left and right arrays respectively as when the fingers are positioned for typing on a standard keyboard.

2. The device of claim 1 wherein said device comprises a monitor screen mounted on said front surface.

3. The device of claim 1 wherein said means for securing comprises:

a left hinge located an upper left corner of said chassis and coupling said left keyboard section to said

chassis; and

a right hinge located in an upper right corner of said chassis and coupling said left keyboard section to said chassis;

said right and left hinges arranged in operable combination with said chassis and said right and left keyboard sections, respectively, to permit orientation of said right and left keyboard sections to said first position and orientation of said right and left keyboard sections to a second position where said right and left keyboard sections face said operator with left and right arrays oriented to permit typing with fingers of said left and right hand having the same spatial relationship to said left and right arrays respectively as when the fingers are positioned for typing on a standard keyboard.

4. The device of claim 1 which comprises at least one additional key on said front surface.

5. The device of claim 4 wherein said one additional key is a two position switch wherein, in one position, said screen presents an image of said keyboard aligned with said keyboard whereby a user is presented with a visual guide to keys on said keyboard and, in another position, presents data.

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### *Description*

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## FIELD OF THE INVENTION

This invention relates to keys of computer keyboards and the like and particularly to the keys of a keyboard mounted on the backside of the notebook computer or game box.

## BACKGROUND AND INFORMATION DISCLOSURE

Along with the tremendous growth in the development and marketing of personal computers and computer games, there has been a widespread occurrence of various forms of a malady classified as "repetitive motion syndrome". (RMS). This malady is especially prevalent among users of keyboards wherein long periods of typing lead to such conditions as "carpal tunnel syndrome" and strain in the ligaments and tendons of the wrists. The problem is exacerbated by the unnatural position of the hands while typing in which the wrists are turned so that the palms of the hand face downward while the fingers move across the board activating the keys. The wrists are twisted when the hand is in this orientation.

The patent literature contains a number of references intended to address this problem. For example, U.S. Pat. No. 5,502,460 discloses a keyboard having two sections of keys tilted with respect to one another.

U.S. Pat. No. 5,515,305 to Register discloses a PDA having a chord keyboard on the backside of the chassis for forming single alphanumeric indicia by depressing combinations of keys.

U.S. Pat. No. 5,645,277 to Cheng discloses hand held control units with finger operating surfaces.

U.S. Pat. No. 5,49,037 discloses a tiltable keyboard.

U.S. Pat. No. 5,645,277 to Cheng discloses hand held units with finger operating surfaces.

U.S. Pat. No. 5,515,305 to Register et al discloses a computer having a chord keyboard mounted on front and rear surfaces of the PDA computer. The problem with this keyboard is that each alphanumeric datum is entered by pressing a combination of keys and therefore the depression of the keys is not consistent with the layout of the typical keyboard to which the user has become accustomed.

However, there is no thought given to a conventional keyboard with 40 keys positioned on a keyboard in an arrangement that reduces stress on the wrists as effectively as the present invention while permitting the user to manipulate his fingers according to his training to operate state of the art keyboards.

## SUMMARY

It is an object of this invention provide a keyboard for a notebook, personal data assistant (PDA), or game box. The keyboard is positioned on a surface on the side of the chassis facing away from the user so that the fingers and hands are in a "natural" position. In the context of this specification, "natural" position is defined as meaning that the palms are turned upward facing the underside of the box when typing thereby minimizing strain on the wrists, the palms are turned upward facing the underside of the box when typing thereby minimizing strain on the wrists. The keys are arranged in a "standard" position meaning that they are arranged on the keyboard in the same arrangement as the standard keyboard so that the user has the same "feel" of location that occurs when the keyboard is on the top surface of the chassis thereby eliminating the strain caused by twisting the wrist to type in the state of the art position.

## BRIEF DESCRIPTION OF THE FIGURES

FIG. 1 shows the arrangement of the keys on the front side of a keyboard according to the prior art.

FIG. 2 shows the arrangement of the keys on the backside of a keyboard.

FIG. 3 shows an image on the screen of the keys on the reverse side of the chassis.

FIG. 4 shows the "angel wing" configuration with keyboard sections folded.

FIG. 5 shows the "angel wing" configuration with keyboard sections unfolded.

## DESCRIPTION OF AN ILLUSTRATIVE EXAMPLE

Turning now to a discussion of the drawings, FIG. 1 is a drawing showing the arrangement of the keys on a keyboard to the prior art. The hands are shown in phantom in a natural position according to conventional typing procedure with the fingers extending out over the keys in a position for typing. The little finger 12 of the left hand is proximal to the letter A and the fore finger 14 of the left hand is proximal to the letter F according to customary practice.

FIG. 2 shows the keyboard 16 mounted on the backside of the chassis according to the invention with the fingers extending over the keys in a position for typing. The fingers and keys are shown in phantom with the little finger 12 of the left hand proximal to the letter A and the forefinger of the left hand proximal to the letter F as in FIG. 1.

FIG. 3 shows the front side of the chassis 16 with a display screen 18 showing the arrangement of the keys as would appear to the user if the chassis 16 were transparent. A switch 20 is provided which may be a momentary switch or a two position switch which is operable with the thumb and which, in one position shows data and in a second position shows the key layout on the screen to enable the user to position his hands when he is beginning his typing.

FIGS. 4 and 5 show an embodiment in which the keyboard comprises two separate sections 14A and 14B. FIG. 4 shows the rear surface of the notebook 16 "closed" with each keyboard section oriented against the underside of the computer. FIG. 5 shows the notebook "open with each section oriented away from the computer. One section is hinged by hinge to the upper right hand corner of a notebook computer and another section hinged by hinge to the to the upper left hand corner. The axes of rotation are shown oriented 45.degree. with respect to the side edges of the notebook computer.

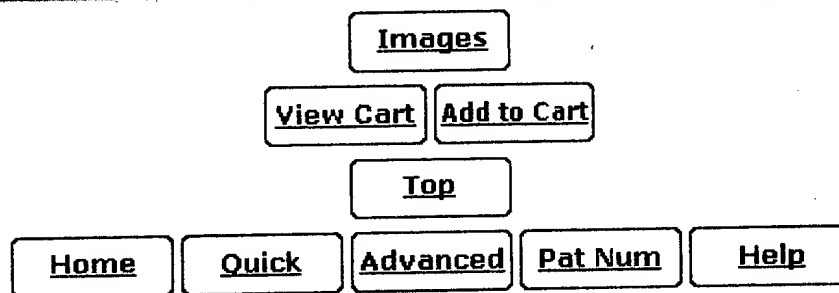
When the computer is "open" (FIG. 5) the hands are in the position illustrated in FIG. 1 which is the method according to the prior art. When the computer is "closed" (FIG. 4) the hands are in position illustrated in FIG. 2 with the hand under under the keyboard and fingers extending over the keys, in the same relative position as the prior art and FIG. 5.

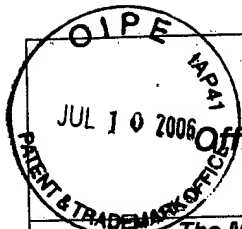
It may be noted that the wrists illustrated in FIG. 2 are not subjected to the twisting strain illustrated in the "standard" orientation shown in FIG. 1.

Other variations of the invention may be suggested by reading the specification and studying the drawings which are within the scope of the invention. For example, the keyboard of this invention may be either a personal computer, a Newton computer, a personal digital assistant or a game.

I therefore wish to define the scope of my invention by the appended claims.

\* \* \* \* \*





# Office Action Summary

Application No.

09/940,210

Applicant(s)

LEE, SANG MIN

Examiner

FRANCIS NGUYEN

Art Unit

2674

The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) NONE is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9-13 and 15-18 is/are rejected.
- 7) ☐ Claim(s) 2,8 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Objections***

1. Claims 4, 10, 16 are objected to because of the following informalities: incorrect word "Crystals" in claim 4( page 4, line 5), claim 10( page 13, line 16), claim 16 ( page 14, line 29).  
Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-7, 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Genest et al. ( US Patent 6,480,377) in view of Price et al. ( US Patent 6,377,444).

As to claim 1) Genesis et al. teaches a handheld computerized device ( handheld computer 12 shown in figure 1, column 7, lines 50-54) comprising:

a keyboard portion having a support base and a keypad ( keyboard 20 and support base shown in figure 1, column 7, lines 34-36, plurality of individual keys 58 shown in figure 3),  
an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges, the front edge of the electronic housing being hingedly coupled to the front edge of the support base ( housing of handheld computer 12 shown in figure 1, hinge structure 17, column 7, lines 15-16)

*Draft*

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*(Original)*  
*copy*

Art Unit: 2674

a pair of hand support means ( latch hook 60 and hook receiving member 62, column 14, lines 28-32)

a means for displaying data ( screen 32, column 8, lines 12-14)

a processor situated within the electronic housing ( computer processor 30, column 8, lines 1-3)

However, Genest et al. fails to teach electronic housing pivot from a closed position into an open position wherein the bottom surface of the electronic housing is parallel to the bottom surface of the support base. Price et al. teaches hinged housings for electronic devices ( see abstract), with first body portion and second body portion for rotation at an angle greater than 180 degrees from the mounting surface ( column 3, lines 15-18) . It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus of Genest et al. then modify the electronic housing to pivot from a closed position to an open position for more than 180 degrees as taught by Price et al. to obtain the apparatus Genest et al. modified by Price et al. because it would allow user to have multiple configurations , as taught by Price et al.

( column 5, lines 35-36).

*Teaches rotating → (affixed)  
into multiple  
config into a  
configuration*

As to claim 3, the device recited in claim 1, wherein the display means further comprises: a display area defined by a top edge, bottom edge, and a pair of side edges ( Genest et al., screen 32, column 8, lines 3-4) ; a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and each edge of the display lying adjacent to and being securely attached to each corresponding strip of the display area ( inherent on front side 26 shown on figure 1, for supporting LCD screen 32).

Art Unit: 2674

As to claim 4, the device recited in claim 3 wherein the display area is a Liquid Crystal Display ( Genest et al., column 8, lines 13-14).

As to claim 5, the device recited in claim 3, wherein the bottom strip and each side strip of the front panel further comprises a plurality of additional alphanumeric keys ( Genest et al., keys 58 and switches 56, column 11, lines 7-8) each adapted to generate a character signal upon depression thereof; and a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor ( data port and data connector, column 11, lines 13-15) .

As to claim 6, the device recited in claim 1, further comprising a pressure sensitive writing means for allowing data to be inputted via handwriting ( Genest et al., coumn 8, lines 15-17 column 11, lines 58-64).

As to claim 7, Genesis et al. teaches a handheld computerized device ( handheld computer 12 shown in figure 1, column 7, lines 50-54) comprising:

a keyboard portion having a support base and a keypad ( keyboard 20 and support base shown in figure 1, column 7, lines 34-36) plurality of individual keys 58 shown in figure 3),

an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges ( housing of handheld computer 12 shown in figure

1)

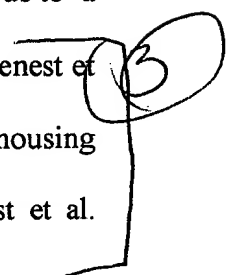
Art Unit: 2674

a pair of hand support means ( latch hook 60 and hook receiving member 62, column 14, lines 28-32) *next 9 claim amended*

a means for displaying data ( screen 32, column 8, lines 12-14)

a processor situated within the electronic housing ( computer processor 30, column 8, lines 1-3)

However, Genest et al. fails to teach bottom surface of the electronic housing being securedly attached to the bottom surface of the keyboard portion . Note that Genest et al. does teach a hinge structure 17 ( column 7, lines 15-16); this would allow pivoting. It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus of Genest et al. then make use of the hinge for pivoting resulting in bottom surface of the electronic housing attached to the bottom surface of the keyboard portion to obtain the apparatus Genest et al. modified because it would allow different configurations for user.



As to claim 9, the device recited in claim 7, wherein the display means further comprises: a display area defined by a top edge, bottom edge, and a pair of side edges ( Genest et al., screen 32, column 8, lines 3-4) ; a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and each edge of the display lying adjacent to and being securely attached to each corresponding strip of the display area ( inherent on front side 26 shown on figure 1, for supporting LCD screen 32).

As to claim 10, the device recited in claim 7 wherein the display area is a Liquid Crystal Display ( Genest et al., column 8, lines 13-14).

Art Unit: 2674

As to claim 11, the device recited in claim 9, wherein the bottom strip and each side strip of the front panel further comprises a plurality of additional alphanumeric keys ( Genest et al., keys 58 and switches 56, column 11, lines 7-8) each adapted to generate a character signal upon depression thereof; and a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor ( data port and data connector, column 11, lines 13-15) .

As to claim 12, the device recited in claim 7, further comprising a pressure sensitive writing means for allowing data to be inputted via handwriting ( Genest et al., column 8, lines 15-17 column 11, lines 58-64).

Claims 13, 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Genest et al. ( US Patent 6,480,377) in view of Allgeyer et al. ( US Patent 6,477,042)

As to claim 13, Genesis et al. teaches a handheld computerized device ( handheld computer 12 shown in figure 1, column 7, lines 50-54) comprising:

a keyboard portion having a support base and a keypad ( keyboard 20 and support base shown in figure 1, column 7, lines 34-36) plurality of individual keys 58 shown in figure 3),

an electronic housing having a configuration defined by a top surface, a bottom surface, a rear edge, a front edge, and a pair of side edges ( housing of handheld computer 12 shown in figure

1)

a pair of hand support means ( latch hook 60 and hook receiving member 62, column 14, lines 28-32)

Art Unit: 2674

a means for displaying data ( screen 32, column 8, lines 12-14)

a processor situated within the electronic housing ( computer processor 30, column 8, lines 1-3)

However, Genest et al. fails to teach sliding brackets having a pair of guide members. Allgeyer et al. teaches a sliding bracket with rails ( column 11, lines 55-57). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus of Genest et al. then make use of sliding brackets with guide members as taught by Allgeyer to obtain the apparatus Genest et al. modified by Allgeyer et al. because it would allow ease of assembling/disassembling , as taught by Allgeyer ( column 11, lines 56-57) and also user can easily change configuration.

As to claim 15, the device recited in claim 13, wherein the display means further comprises: a display area defined by a top edge, bottom edge, and a pair of side edges ( Genest et al., screen 32, column 8, lines 3-4) ; a front panel surrounding the display area and being defined by a top strip, a bottom strip, and a pair of side strips; and each edge of the display lying adjacent to and being securely attached to each corresponding strip of the display area ( inherent on front side 26 shown on figure 1, for supporting LCD screen 32).

As to claim 16, the device recited in claim 15 wherein the display area is a Liquid Crystal Display ( Genest et al., column 8, lines 13-14).

As to claim 17, the device recited in claim 15, wherein the bottom strip and each side strip of the front panel further comprises a plurality of additional alphanumeric keys ( Genest et al., keys

Art Unit: 2674

58 and switches 56, column 11, lines 7-8) each adapted to generate a character signal upon depression thereof, and a means for electrically connecting the plurality of additional alphanumeric keys to the processor whereby each generated character signal is transmitted to the processor ( data port and data connector, column 11, lines 13-15) .

As to claim 18, the device recited in claim 13, further comprising a pressure sensitive writing means for allowing data to be inputted via handwriting ( Genest et al., counm 8, lines 15-17 column 11, lines 58-64).

*Allowable Subject Matter*

4. Claims 2, 8 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. *what about other limitations*

The following is a statement of reasons for the indication of allowable subject matter: As to claims 2, 8 and 14, none of prior art teaches the first section of a keypad arranged in the standard QWERTY keyboard for the left hand, the second section of the keypad being arranged in the standard QWERTY keyboard format for the right hand.

CONCLUSION

5. The prior art made of record not relied upon is pertinent to applicant's disclosure

US Patent      Susel              6,111,527

US Patent      Tzeng              6,431,776

Art Unit: 2674

Reference Susel is made of record as it discloses keyboard assembly for handheld and subnotebook comprising a primary keyboard and an auxiliary keyboard.

Reference Tzeng is made of record as it discloses a compact keyboard.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **FRANCIS N NGUYEN** whose telephone number is **703 308-8858**. The examiner can normally be reached during hours 8:00 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached at 703 305-4079.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 ( for Technology Center 2600 only)**

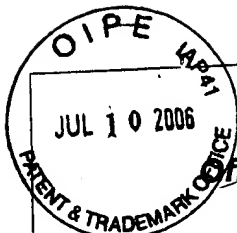
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor ( Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service whose telephone number is (703) 306-0377.

May 16th, 2003



FRANCIS N NGUYEN  
Examiner  
Art Unit 2674



Application No.	Applicant(s)	
09/940,210	LEE, SANG MIN	
Examiner	Art Unit	
DUC Q. DINH	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 March 2005.
- 2a) ☒ This action is FINAL.
- 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

\*pull NI  
\*(6,297,752)

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Application/Control Number: 09/940,210  
Art Unit: 2674

### DETAILED ACTION

1. This is response to the Amendment filed on March 23, 2005.

#### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 13-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended claim 13 recites the limitation "in the closed state, the side edges of the support base are adapted to slide into the guide members such that the keypad faces the top surfaces of the electronic housing". Although the specification page 9-10 does mention the arrangement of the electronic device, there is no support in the specification for the quoted limitation above. The examiner examines the application based on best understood of the claimed language.

#### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Application/Control Number: 09/940,210

Art Unit: 2674

5. Claims 1-4, 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandenburg et al. (U. S. Patent No. 6,665,173), hereinafter Brandenburg.

In reference to claim 1, Brandenburg discloses in Fig. 6 a handheld computer comprising: keyboard portion 807 having support base and a thumbboard 805 (corresponding to the keyboard) defined by a top surface, a bottom surface, a rear edge, a front edge and a pair of side edges, the thumb board overlaying the top surface of the support base as claimed. An electronic housing 801 having the same structure with the keyboard portion as shown in Fig. 6A. Fig. 6B shows the coupling structure of the keyboard portion and the display portion in an open or closed position such that the bottom surface of the electronic housing is parallel to the bottom surface of the support base as claimed (col. 11, lines 35-53). The device specifically comprising (1) an alphanumeric data input device, such as a full QWERTY-type keyboard or thumb board; (2) a display device, such as an LCD, LED... display screen; (3) a processor; (4) a power source... and (6) a physical housing that contains these components (corresponding to the electronic housing) and that consists of at least two discrete portions that may translate, rotate and/or pivot relative to one another, one portion containing a display device and one portion containing a keyboard (col. 7 line 60 – col. 8 line 5). Fig. 7D show a keyboard having first and second section having plurality of key and being in the form of complementary symmetrical and vertically parallel with the top surface of the keyboard portion.

*★ Exam  
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Fig.  
6.C  
in  
Response*

In addition, Brandenburg discloses that the system also has a plurality of raised grips 621 (corresponding to the hand support means) may be integrated into protective bumpers 619 to facilitate handling of and interaction with device 601. However, Blandenberg does not disclose the raised grips being attached to a side edge of the display portion of the device. Fig. 5 shows

Application/Control Number: 09/940,210  
Art Unit: 2674

and touch pad on the backside of the device. The touch pad is located such that it can be utilize by the user while the device in either closed state or open state (col. 11, lines 16-34)

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to provide the grips of the system to provide the user hand support while using the touchpad in the back of the display as shown in Fig. 5B or holding the device while typing on the keyboard as shown in Fig. 4.

In reference to claim 2, Fig. 7 shows the appropriate standard QWERTY keyboard format on the left and right hand as claimed.

In reference to claims 3, and 21, Fig. 6 A and 6C show the strips surrounding the display which carries the additional input device such as joystick for the system as claimed.

In reference to claims 4 and 22, see the rejection of claim 1 for the LCD display as claimed.

In reference to claims 19 and 20, refer to the rejection as applied to claim 1.

6. Claims 7-10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blandenberg in view of Ni (U. S. Patent No. 6,297,752).

In reference to claim 7, refer to the rejection as applied to claim 1. However, Blandenburg does not disclose, the bottom surface of the electronic housing being securely attached to the bottom surface of the keyboard in an operable position. Ni discloses a backside keyboard for a notebook having bottom surface of the electronic housing being securely attached to the bottom surface of the keyboard as claimed.

It would have been obvious for one of ordinary skill in the art at the time of the invention  
was made to learn the teaching of Ni, i.e., the bottom surface of the electronic housing being  
securely attached to the bottom surface of the keyboard in an operable position, so that the user  
has the same feel of location that occurs when the keyboard is on the top surface of the chassis  
thereby eliminating the strain caused by twisting the wrist to type in the state of the art (col. 2,  
lines 5-8).

In reference to claims 8-9, refer to the rejection as applied to claims 1-3.

In reference to claim 10, refer to the rejection as applied to claim 4.

In reference to claims 13 and 14, refer to the rejection of claim 1. In addition, Fig. 1-3  
show an embodiment in which the keyboard portion and the display portion connected by sliding  
means which comprising bracket and guiding members for the system as claimed (see col. 9,  
lines 25-45). In addition, Ni shows the bottom surface of the keyboard and the bottom surface of  
the electronic housing are parallel to each other.

In reference to claim 15, refer to the rejection as applied to claim 3.

7. Claims 5, 11, 17 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over  
Blandenburg and Ni in view of Makala et al. (U. S. Patent No. 6,047,196).

In reference to claims 5, 11, 17 and 23, Blandenburg discloses in Fig. 4, plurality of input  
devices is provided in the boundary strips around the display device. For examples one boundary  
may be indicated by a "-" sign and the opposing end boundary may be indicated by a "+" sign  
(col. 10, lines 26-60). However, Blandenburg does not disclose the plurality of additional

Application/Control Number: 09/940,210

Art Unit: 2674

alphanumeric key for the system. Makala discloses a portable device having the additional alphanumeric keys in the display portion in Fig. 1.

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to learn the teaching of Makala, i.e.: providing additional alphanumeric key, in the boundary strips of the display device taught by Blandenburg so that device have more optional keys that can be used in the open position or in the closed position.

8. Claims 6, 12, 18 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blandenburg and Ni in view of Genest et al. (U. S. Patent No. 6,480,377) hereinafter Genest.

In reference to claim 6, 12, 18, and 24, Blandenburg and Ni fails to disclose a pressure sensitive means for allowing data to be input via handwriting and the pressure sensitive means overlapping the bottom of the display area. Genest discloses handheld computer having a display screen 32 is and LCD screen of the pressure sensitive type.

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to provide the pressure sensitive of Greenest in the device taught by Blandenburg and Ni because that would enable the user additional input data or commands into the system.

### *Response to Arguments* ✱

9. Applicant's arguments with respect to previous Office Action have been considered but not persuasive. With respect to claim 1, Fig. 6 C of the prior art of Blandenburg shows the bottom surface of the thumbboard is parallel to the bottom surface of the electronic housing with corresponding to either open or closed or open position as claimed (claim 1 does not defined in

what state the device is operable). With respect to the rejection applied to amended claims 7 and 17, see the rejections based on the newly discovered art of Ni.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

#### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **DUC Q. DINH** whose telephone number is **(571) 272-7686**. The examiner can normally be reached on Mon-Fri from 8:00.AM-4:00.PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Edouard Patrick** can be reached on **(571)272-7603**.

**Any response to this action should be mailed to:**

Application/Control Number: 09/940,210

Art Unit: 2674

Commissioner of Patents and Trademarks

Washington, D.C. 20231


**Or faxed to:**

**(703) 872-9306 (for Technology Center 2600 only)**

Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive,  
Arlington, Va Sixth Floor (Receptionist)

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the Technology Center 2600 Customer Service Office whose telephone  
number is (703) 305-4700.

DUC Q DINH  
Examiner  
Art Unit 2674

  
REGINA LIANG  
PRIMARY EXAMINER

DQD  
June 26, 2005



# Notice of References Cited

Application/Control No.

09/940,210

Applicant(s)/Patent Under  
Reexamination  
LEE, SANG MIN

Examiner

DUC Q. DINH

Art Unit

2674

Page 1 of 1

## U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-6,297,752	10-2001	Ni, Xuan	341/22
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

## FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

## NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

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